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## New Polypodiums From Tropical America

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In the last number of his highly valuable "Studies of Tropical American Ferns"<sup>1</sup> Mr. William R. Maxon has given a revision of the species pertaining to the groups of *Polypodium furfuraceum* and *P. squamatum*, which groups fall under the genus *Lepicystis*, as defined by Diels, or *Polypodium*, Section *Marginaria*, of Index Filicum. Trying to determine my material of the two groups in accordance with Maxon's treatment, I found some specimens in my bundle of species grouped together under Section *Marginaria*, which I noted as probably new species long ago. I take the opportunity now to describe two of them.

### ***Polypodium steirolepis* C. Chr., sp. nov.**

*Polypodium nigripes* Hook. Sp. Fil. 5: 17. 1863  
(not Hassk. 1844).

Under *P. leucosticton* Kunze, Mr. Maxon<sup>2</sup> lists a Venezuelan specimen of the collection cited below (*Eggers* 13041). I cannot, of course, know whether the plant in the U. S. National Herbarium really belongs to *P. leucosticton*, but my specimen is clearly different from that species as defined by Hieronymus, although it most probably is a near ally of it and of *P. plebejum*. I have little doubt of the identity of my specimen with *P. nigripes* Hook. Hooker's description fits very well; nevertheless the specimen has not *black* stipes and rachis.

<sup>1</sup> Contr. U. S. Nat. Herb. 17, Part 7. 1916.

<sup>2</sup> Loc. cit. p. 573.

[No. 1 of the JOURNAL (7: 1-32, Plate 1.) was issued March 3, 1917.]

From *P. leucosticton* it differs chiefly by its subphlebioid venation; the fronds are not subdimorphous but rather alike, broadly deltoid or broadly ovate-oblong, the fertile ones on longer stalks, but their lamina not linear-oblong as in *P. leucosticton*. Leaves variable in size and division, lobate, deeply pinnatifid or even pinnate below. Pinnae or segments of larger fronds 8-10 pairs, 5 cm. long, 1 cm. broad, coarsely serrated toward the apex. Texture very thick. Surfaces of young fronds clothed with ovate, lacerato-ciliate, brown scales, those of the under side numerous but not covering the whole surface; surfaces with age naked. Stipe and rachis beneath, when young, chaffy by thin, pale yellow, lacerato-ciliate or dentate, lanceolate scales, the larger of which (especially those of the lower part of the stipe) have a dark brown or black midline. Rhizome about 5 mm. thick, densely clothed by small carinate, lanceolate scales, consisting of a lanceolate-acuminate, black, rigid median part bordered by broad, hyaline, pale yellow, fimbriate margins.

VENEZUELA: Los Tegñes, alt. 3800 ft., *Eggers* no. 13041, 12. 6. 1891.

POLYPODIUM PLEOPELTIDIS Fée, *Crypt. Vasc. Brés.* 1: 86. pl. 26. f. 1. 1869.

*Polypodium typicum* Fée, *Crypt. Vasc. Brés.* 2: 52. pl. 96. f. 2. 1872-73; Maxon, *Contr. U. S. Nat. Herb.* 17: 568. 1916.

A comparison of authentic specimens from the type collection, in the Botanical Museum of Copenhagen, of *P. pleopeltidis* Fée (*Glaziou* 2459 and 2817) and of *P. typicum* Fée (*Glaziou* 5294) has convinced me that the two supposed species are forms of a single species. *P. pleopeltidis* is, as illustrated by Fée, a rather large form rivalling *P. plebejum* in size, with distant and (towards the acute apex) more or less coarsely crenate segments. *P. typicum* is smaller, with more approxi-

mate segments, these having obtuse tips. But other specimens are intermediate between these two extremes, and all forms seen agree closely as to the scales of the rhizome and under side of the lamina.

In general aspect *P. pleopeltidis* resembles more *P. madrese* J. Sm. (*P. oulolepis* Fée) than *P. plebejum*, but the scales are very different. It has a more slender rhizome and the leaves are more distant than in the two Mexican species. Several specimens bear a row of white dots ( $\text{CaCO}_3$ ) along the margins above the tips of the veins (hydathodes), a character not observed in the two species mentioned.

***Polypodium tobagense* C. Chr., sp. nov.**

Rhizome long-trailing, threadlike as in *P. piloselloides*, its scales with a long, hairlike, flexible apex. Leaves scattered, isomorphous or nearly so, on stalks scarcely 1 cm. long, entire, lanceolate, narrowed toward both ends (the apex acute), up to 10 cm. long, about 1 cm. broad below the middle, subcoriaceous or membranous, dark-green above, grayish-green beneath. Scales of the surfaces minute, mainly like those of *P. piloselloides*, those of the midrib beneath rather numerous and large, lanceolate, red-brown. Venation and sori as in *P. piloselloides*.

BRITISH WEST INDIES: Tobago, Belmont Road, Adelphi, running on a tree, *W. E. Broadway* no. 3615, January 24, 1910.

Related closely to *Polypodium piloselloides* L., a simple-leaved species belonging to a group not treated in Mr. Maxon's paper. It differs essentially from true *P. piloselloides* by its long, lanceolate fronds, the sessile and fertile ones being scarcely different as to shape and size, while in *P. piloselloides* the leaves are decidedly dimorphous.